

Learner-centredness: an analytical critique

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Contemporary education theory (and official South African policy) underwrites learner-centredness. I analyse learner-centredness as a possible piece of the puzzle about why it is proving so difficult to improve academic achievement. Learner-centred ideas are grounded in the belief that cognitive abilities develop spontaneously in accordance with a natural developmental trajectory and optimal education is education that is in harmony therewith. The origin of learner-centredness is Rousseau's education naturelle. I set out Rousseau's ideas and then critically analyse their manifestation in contemporary education.

Keywords: academic problems; contemporary derivatives; learner-centredness; Rousseau

Introduction

The South African state wishes to provide all South African children with quality education which will "ensure that learners gain the skills, knowledge and values that will allow them to contribute to their own success as well as to the success of their family, community and the nation as a whole" (RSA, 1997:10). In order to meet this goal, outcomes-based education was introduced in 1998 in the form of Curriculum 2005. Outcomes-based education de-emphasises content and replaces formal, didactic instruction in separate subjects with learner-centred, self-discovery learning via holistically integrated projects (Ludwigson, 1995:285). The overall aim, reflected in the 12 generic outcomes, was the cultivation of problem-solvers and critical thinkers (RSA, 1997:10-12; 2002b:8). But it soon became evident that the equation of educational hopes and academic achievement was not balancing. Subsequently, in 2001, Curriculum 2005 was revised. Teachers as "mediators of learning" rather than instructors remained (RSA, 2002b:9), but more guidance as to the subject content of each learning area was given in the form of assessment standards (RSA, 2002a). Such revision did not, however, balance the education equation. In 2005 this situation was again officially addressed. The outcome was that the Ministerial Committee on Teacher Education (RSA, 2005:6) recommended that schools should "retrieve the word 'teaching', and understand it as the practice of organising systematic learning."

The call to retrieve teaching is laudable. Nevertheless, the education equation is still failing to balance. Such failure indicates a possible error in the current learner-centred interpretation of teaching and organising systematic learning. Learner-centred ideas are grounded in the belief that cognitive abilities develop spontaneously in accordance with a natural developmental trajectory and optimal education is education that is in harmony therewith.

Learner-centred education theory, like all social theories, has high ideals,

namely, an educational revolution that will make each and every child a successful learner. However, noble ideals do not translate themselves into reality. In fact, learner-centred theory in one or other form has been implemented in American schools since the early 20th century. Each attempt has persistently failed, and after each failed attempt the foundational belief and its tenets are re-applied but clothed in a "new" form with new terminology (Egan, 2004:6; Hirsch, 1996:9; 1996:48; 2001:2; Stone & Clements, 1998:3). The persistent failure in the past means either that the ways of implementing learner-centred principles in the past were wrong and the latest form may yet be successful, or that the foundational belief in natural development is wrong, that it does not correspond to reality.

A theory's validity lies in its logical coherence, but its truth, its rightness or wrongness, lies in the foundational beliefs and premises, whether they accord with the reality that the theory presumes to describe and predict. A theory with wrong premises can never be successfully implemented. Critical analysis of the premises undergirding a theory is therefore of utmost importance. As Archer (1928:7) points out: "we must keep our attention fixed on the premises, not be content to enjoy the rhetorical unrolling of the conclusions ... it is for the reader to see how far errors in the premises vitiate the conclusions."

My aim in this article is to examine learner-centredness as a piece of the puzzle about why it is proving so difficult to improve academic achievement. The article is an analysis of ideas. As Postman (in Veith, 1987:139) points out, dominant ideas and trends in society must be challenged in order to maintain a healthy culture.

The contrast between learner-centredness and traditional education

Learner-centred education is a romantic style of education (Hirsch, 1996:71; 2001). Romanticism is the philosophical stance that presupposes the goodness of nature and natural processes. Not only does it presuppose natural goodness, it also assumes that human development, in all its facets, is a natural, automatic process, and this (assumed) natural process should direct education rather than the knowledge one wants the child to learn (Egan, 2004:16).

That the child's cognitive state, i.e. what he/she knows and/or can do, is a condition necessary for the consideration of what knowledge should constitute the subject content proponents of traditional education also hold, and have always held. The two education theories — progressive, learner-centred and traditional, content-centred — differ in that they hold different views of how cognitive, intellectual powers develop. Progressivism, or *developmentalism* as Stone (1996) dubbed it, holds that *all* cognitive, intellectual powers develop automatically in accordance with a natural developmental trajectory, and education that follows the child's own natural pace of development is the optimal possibility (Stone, 1996:6).

In contrast, traditional education theory holds that whilst primary cog-

nitive abilities — speech, a basic number-sense and psychomotor skills — are biological processes that in normal children in normal circumstances follow a definite and universal sequence, secondary cognitive abilities — the three Rs and all further intellectual learning — “do not develop unless they are taught” (Hirsch, 1996:88). The three Rs are not biological processes but artificial constructs, and they must be explicitly taught, for how else can one explain illiterate cultures as well as illiteracy in a literate culture (Fletcher & Lyon, 1998:56; Hirsch, 1996:88; Stone & Clements, 1998:17)?

Traditional education’s view of the intellect calls for teaching as an act of direct and purposive instruction. In contrast, the progressive view of the intellect calls for teaching as an act of creating situations that stimulate natural learning in harmony with natural ontogenesis. The teacher’s role is not as instructor and transmitter of knowledge, but as guide, facilitator and helper. This stance originated with Rousseau’s *education naturelle* (1928).

Learner-centredness and Rousseau

As mentioned above, progressive education’s faith in a natural developmental process is a romantic stance. Romanticism as a historic era in the West stretched roughly from 1780 to 1840. The Romantics revolted against the rationalism of the Enlightenment. Furthermore, the late 18th century had brought the French Revolution to Europe, and in that strife-torn age the Romantics yearned for healing, a “mental healing in the bower of ‘nature’” (Raschke, 1980:53). Inspired by a “pantheistic sense of spirit in nature” (Stromberg, 1966:213), the Romantics believed that a divine breath infuses the natural world as well as human beings in their natural state. This belief imbues nature and natural processes with the ultimacy and inerrancy of God (Hirsch, 2001:3), and since childhood is nearer than adulthood to the natural state of being human, it also gives a divine glow to childhood (Hirsch, 2001).

The pantheism of romanticism is seldom explicit. What is explicit is the elevation of natural states and processes, and such elevation is accompanied logically with a condemnation of all that is artificial. For education, this means that artificial methods such as direct instruction are out and natural learning is in, which constitutes an injunction to discover and study the characteristics of natural development and to adapt modes of schooling to this.

The Romantics were, consciously or unconsciously, inspired by Rousseau’s tirade against civilization, and it is in his book *Emile* (1928), published in 1762, that he sets forth the arguments for the subordination of the learning content to natural stages of child development.

Rousseau (1712–1778) lived during the time of the Enlightenment. The Enlightenment philosophers glorified human freedom, but in general they did not extend the glorification of freedom to childhood: “[M]ost of them did not break with the molding and civilising principles of education” (Hirsch, 1996: 73). Rousseau was an exception. Rousseau exalted the emotions above the intellect, and he stands thus in the romantic rather than the rationalist tradition.

Romanticism is optimistic, flattering to the human condition and therefore has great emotional appeal. Rousseau's emotive appeal carried others with him, and furthermore:

his manner of writing was particularly suited to lull to sleep their [his readers'] critical powers. His political and educational theories always appear to be based on axiomatic first principles and to be deduced from them by the most obvious and irrefragable logic. This specious appearance is maintained even when he is running counter to general experience, and when he is in reality influenced in his conclusions mainly by his prejudices (Archer, 1928:5).

Using both emotive and rhetorical persuasive powers, Rousseau attacked the existing system of education on every side, both moral and intellectual training. With regard to intellectual education, Rousseau's core premises set out in *Emile* (1928) are:

- The child is naturally good.
- Intellectual development is a process of natural growth.
- The child's main characteristic is activity.

On the basis of his premises, Rousseau proposed certain principles for intellectual education which he set out in *Emile*. Of these, the following, accompanied by representative quotations from *Emile* (1928), have become truisms:

Intellectual learning should await developmental readiness which is a spontaneous act of natural maturation: "Children should not use their intellect till it has acquired all its faculties" (Rousseau, 1928:99).

Children learn best in a natural, incidental way: "[C]hildren generally acquire speechily and certainly whatever they are not pressed to learn" (Rousseau, 1928: 121). Formal tuition, Rousseau believed, was not only inferior but "that it harms children by violating their natural propensities" (Green, in Stone, 1996:7).

Sensory experience is the best teacher, and self-activity and discovery learning should therefore replace verbal instruction: "Give your pupil no lesson in words; he must learn only from experience" (Rousseau, 1928:97); "Let him know nothing because you have told him, but because he has discovered it himself" (Rousseau, 1928:149).

Memorisation is condemned: The purpose of education is not to "furnish his mind with knowledge" (Rousseau, 1928:176). That serves only to load the memory with facts "meaningless to children and useless to men" (Rousseau, 1928:114). Rousseau's aim was to impart methods of acquiring knowledge (cognitive tools): Emile "has an all-round training, not in point of actual knowledge, but in the faculties of acquiring it" (Rousseau, 1928:176).

Learning must be in the context of the child's immediate world and present interests: "[K]eep his attention fixed on himself and his immediate surroundings: you will then find him capable of perception, of memory, and even of reason: this is the order of Nature" (Rousseau, 1928:120).

Learning should be enjoyable, and children should not be made to learn: Childhood should be "an age of gaiety" (Rousseau, 1928:89), and children's attention and learning "must always be aroused by pleasure or inclination, never by constraint" (Rousseau, 1928:154).

Contemporary learner-centredness

The 20th century was the time of the spread of learner-centredness, but it was also a time of gradual decline in academic performance. In America various reforms were made, especially since the 1960s, but always within a learner-centred paradigm. As Hirsch (1996:69) remarks: "Within the educational community, there is ... no *thinkable* alternative." However, the decline in academic performance generated scepticism towards the education establishment's thinking (found in publications such as Anderson, Reder & Simon, 2000; Egan, 2004; Emberley & Newell, 1994; Evers, 1998; Hirsch, 1996; 2000; 2001; Honig, 1987; 1998; Kozloff, 1998; 2002; Marshall, 1993; Matthews, 2003; Snider, 2006; Stone, 1996; Stone & Clements, 1998).

Despite the voices of the sceptics, developmentalism and natural learning continue to dominate education theory and practice, also in South Africa. Its current derivatives (which follow) are, like the original ideas of Rousseau, a mixture of truth and fallacy. (Examples of publications in which these derivatives are propounded are Ernest, 1995; Gergen, 1995; Gillies, Ashman & Terwel, 2008; Bredekamp & Copple, 2007; Henson, 2004; Jarolimek & Foster, 1993; von Glaserfeld, 1995a; 1995b; Van de Walle, 2006; 2007; Vukelich, Christie & Enz, 2008; Wiske, 1994; Zemelmann, Daniels & Hyde, 1998.) The current derivatives are:

Developmentally appropriate practice (DAP) advocates incidental, natural learning via exploration in a learning conducive environment which is preferably linked to the child's life-world. Furthermore, proponents hold that failure to respect presumed developmental limitations will damage the child's educational prospects (Dickinson, 2002:26).

Whole language advocates natural learning to read in a literature-rich environment. Whole language is an example of a DAP, and part of the so-called *literacy emergent* approach that excludes systematic instruction in reading, writing and spelling.

Constructivism is grounded in the postmodern, typically idealist, doctrine that the mind is constitutive of the reality that it experiences (Bruner, 1986; Goodman, 1984; Rorty, 1989). Within this philosophy, the meaning of subject matter cannot be handed down and explained to students. Instead, students

must engage in hands-on activities and independent research in order to construct their own meaning of subject matter. As Hein (1991:1) claims “Constructing meaning is learning; there is no other kind”. That the constructed meaning may be wrong is excluded by the postmodern premise that truth cannot be known. (Radical constructivists deny the very existence of truth.) Meaning construction can be done individually (as expounded by Piaget — a leading exponent is the radical constructivist von Glaserfeld, 1995a; 1995b) or collectively as a group (as expounded by Vygotsky — a leading exponent is Gergen, 1995).

Discovery or enquiry-based learning advocates natural learning via life-like, thematic projects, hands-on activities and independent research.

Integrated, multidisciplinary, thematic projects replace separate subject teaching.

Situated learning is a term ascribed to Lave & Wenger (1990) who posited that real learning is unintentional rather than deliberate, and occurs therefore not from abstract instruction but only from the presentation of knowledge in “authentic” contexts.

Co-operative learning advocates mixed-ability groups working together and taking responsibility for one another’s learning.

Authentic assessment focuses on the process of learning more than on the product, and calls for “more subjective and less precisely defined instruments of evaluation” (Anderson, Reder & Simon, 2000:17).

Learner-centredness — scientifically validated?

Learner-centredness received apparent scientific validation from the Swiss psychologist, Piaget, and the Russian psychologist, Vygotsky (Matthews, 2003:54; Stone, 1996:11-12). These psychologists researched the process of learning, and their findings indicated that learning is an active process of knowledge construction (Geary, 1994:263). Piaget believed that such construction was purely individual whilst Vygotsky maintained that knowledge is socially and culturally constructed (Boudourides, 1998:2). Another of their findings was that children’s cognitive abilities become progressively more advanced and such advancement occurs in age-related stages, which, as Matthews (2003:54) points out, is what one would expect. Developmentalist educationists take the former finding as establishing the superiority of natural learning over teacher instruction. The latter finding is taken as establishing the truth of the natural development of cognitive abilities. But these deductions are not necessitated by the findings.

With regard to the former finding, learning as an active knowledge construction process *only* to the fact of mental activity, and not to the superiority of natural learning. In fact, the actions of good teachers —

systematic instruction, clear explanations, questioning and checking to see if students have understood, correcting misunderstandings and errors immediately, providing opportunities for independent application — show that it has always been implicitly recognised that learning is knowledge construction and that the principal agent of learning is the activity of the learner's own mind.

With regard to the latter finding, it only showed a progression in cognitive abilities; the deduction that such progression is natural is based not on the findings but on the *a priori* developmentalist premise. The fact of progressive advancement in children's cognitive abilities does not invalidate instruction as the necessary condition for the optimal development of secondary cognitive abilities. Empirical evidence of progressive advancement in children's cognitive abilities has therefore no decisive consequences for traditional education theory. It still leaves romantic developmentalism, which is the backbone of learner-centredness, in the realm of speculation. In fact, the non-universality of the three Rs and the increase in learning disabilities appear to validate instruction, and not natural learning, as the necessary condition for their development and all the intellectual learning based thereon.

Learner-centredness and reading disability

Wilson (1997) maintains that the increase in learning disabilities is actually a "teaching disability", i.e. the problem lies not within children but in learner-centred teaching methods that attempt to stimulate natural learning of secondary cognitive abilities. Speech is a primary cognitive ability. Oral language, specifically the mother-tongue, is a natural outgrowth of speech, and children learn it naturally, i.e. via everyday social interactions. However, reading and writing are not natural outgrowths of speech, but artificial constructs built on oral language (Fletcher & Lyon, 1998:56). The critical component in learning to read is learning the relationship between print and speech, which in an alphabetic language is the phonetic code. Whole-language is rooted in the belief that the phonetic code is best learnt by young children in the same natural way that they learnt to speak their mother-tongue. All that is purportedly necessary is access to plenty of good books with lovely pictures, and children can, and will, learn to read as easily as they learnt to talk. Geary (1994:164) maintains that this idea "is almost certainly wrong". In practice, children are expected "to memorise whole words or to guess words (or whole sentences!) using context, syntax or picture clues with no phoneme-grapheme instruction and are expected to 'discover' the alphabet code for themselves 'along the way'" (dyslexics.org.uk, 2007b:1). In other words, children learn each word as a logograph, as in non-alphabetic languages such as Chinese and Japanese Kanji (Snider, 1995:444; Stahl, 1992:621). Some children do manage to figure out the alphabetic code, but many remain poor readers, condemned to being labelled with a "learning disability" (dyslexics.org.uk, 2007a:2; Snider, 1995:453; Wilson, 1997:16).

The change to whole-language caused reading scores to plummet even further than they had when phonics was replaced with the look-say, flash-

card method (dyslexics.org.uk, 2007b:2). Empirical studies conducted by Adams in 1990, Brown and Felton in 1990, Chall in 1967 and 1983, Engelmann in 1992, Foorman in 1994, Groff in 1994, Pauli in 1988, and Shears and Keogh in 1993 (in Stone & Clements, 1998:17-18) have all found phonics to be clearly superior to look-say and whole-language, especially with at-risk students. McGuinness (in dyslexics.org.uk, 2007a:1-2), a leading cognitive psychologist, points out that the empirical evidence from cross-cultural comparisons (by Wimmer in 1993, Goswami and Wimmer in 1994, Landerl, Wimmer and Frith in 1997, and Geva and Siegel [sa]) shows that dyslexia does not occur at the same rate in all populations, but is predominantly found among English learners, which suggests that the description of dyslexia as an inborn neurological disorder is wrong; the source of difficulty in reading and spelling is the spelling system and the way reading and spelling are currently taught in English-speaking countries. As Carnine (2000:1) says: "Data strongly support the explicit teaching of phonemic awareness, the alphabetic principle, and phonics, which is often combined with extensive practice with phonic readers. These are the cornerstones of successful beginning reading for young children, particularly at-risk youngsters".

The superiority of phonic instruction accompanied with much practice and drilling is ascribable to the fact that it promotes rapid, automatic, unconscious, effortless decoding of individual words, which means that the reader's conscious attention can be fully directed to the meaning of the passage. In a study conducted by Honig (1998:92-93) involving more than 10,000 teachers, all the teachers stated that reading-disabled children in the upper primary grades exhibit poor phonic decoding skills as well as other problems such as poor spelling, vocabulary, understanding, motivation and confidence, all of which stemmed from their reading failure.

The increase in reading problems has led to a so-called balanced approach which is whole-language with an admixture of some phonics (dyslexics.org.uk, 2007b:2-3). The balanced approach to teaching reading is an implicit concession to the practical failure of whole language. In the balanced approach phonics is taught indirectly, the teacher points out letter-sound correspondences in the context of reading a passage. But empirical research of classroom practices has shown that indirect methods of phonics are not as effective as explicitly teaching letter-sound correspondences in sequence from linguistically easy to linguistically difficult. A 1997 study of Foorman and others (in Honig, 1998:105) "showed that about twice as many students learnt to read under systemic [phonic] instruction compared with the indirect strategy".

Learner-centredness and mathematical disability

The current theoretical guide for teaching mathematics (and other subjects) is constructivism (see, for example, Van de Walle, 2006; 2007). Constructivists assume that given an appropriate mathematical (or other subject) environment students will be motivated and able to construct for themselves mathematical (or other subject) knowledge, and such self-discovery promotes

optimal understanding (Geary, 1994:262). (Examples of publications in which constructivism in education is both propounded and criticised are Phillips, 2000; Steffe & Gale, 1995.) The focus in constructivism is on conceptual understanding. Direct teaching and extensive practice and drilling (labelled “drill and kill”) of algorithms and other standard mathematical procedures is deemed unnecessary and potentially detrimental to children’s mathematical development (Geary, 1994:269; Hirsch, 1996:89).

The constructivist teaching approach has two empirical problems. The first is that it does not recognise that — bar counting and other basic numerical activities — mathematics, like reading and writing, is a secondary cognitive domain. Basic numerical activities are primary abilities, the acquisition of which is facilitated through everyday, natural activities, but more complex mathematical skills are biologically secondary, and “there is no natural way to learn non-natural, secondary processes” (Hirsch, 1996:89). For optimal learning, they must be (artificially) taught (see above) and they must be drilled and practised to secure the learning. Natural learning of mathematical skills would require that all children be able to, first, construct correct conceptual meaning for themselves and, second, develop and use mathematical procedures. Geary (1994:265) maintains that it is not likely that all children will construct the correct meaning for themselves, and even if the correct meaning is constructed, “most children are not likely to be able to develop mathematical procedures solely on the basis of their conceptual knowledge”.

The second problem with the constructivist teaching approach is the denigration of the importance of drilling basic mathematical facts and procedures. The

“argument that drill and practice and the development of basic cognitive skills, such as fact retrieval, are unnecessary and unwanted in mathematics education fails to appreciate the importance of basic skills for mathematics development” (Geary, 1994:265).

Of course, children need to understand mathematical concepts, but they also need automaticity in basic knowledge and skills. Automaticity in basic knowledge and skills means that no or very little conscious effort is needed to use them, and automaticity and thus “real competency only comes from extensive practice” (Anderson, Reder & Simon, 2000:13).

Automaticity in basic knowledge and skills is *always* necessary — in sport, playing a musical instrument, phonetic decoding and mathematics; in fact, it is necessary in all learning areas and in every profession. The reason is that attentional and working-memory resources are then free to be used on other, more important, features of the task at hand (Geary, 1994:270). Furthermore, in mathematics, and all other learning areas, a lot of drill and practice is needed even for persons with much innate ability.

Learner-centredness and general academic disability

The stimulation of natural, self-discovery learning is the standard against which all teaching practices are currently measured. When a call is made for

purposive teaching (RSA, 2005:6) such teaching must still fit into the framework of stimulating natural learning. An example is the so-called balanced approach in teaching reading (see above).

Of course, self-discovery does have a place and value in education, a fact which no traditional teacher would deny, but if children are to benefit from a first-hand experience then it must be carefully structured by the teacher and their minds must be prepared prior to the experience (Bantock, 1981:57). The problem with self-discovery is often “not one of getting pupils to attend ... but to help them to attend to the ‘right’ things ... The focus that the teacher intends is not always the one adopted by all pupils” (Osborne & Freyberg, 1985: 91). Students “do not always on their own make the discoveries they are supposed to make; in fact, they sometimes make ‘discoveries’ that aren’t true” (Hirsch, 1996:250). When dealing with children and adolescents one must keep in mind that the ability to learn on one’s own and/or do independent research is normally the result of a good education and not the cause of it (Wilson, Callihan & Jones, 1995:20).

Furthermore, children do not come to the classroom with empty minds. They have often already constructed their own interpretative ideas regarding learning matter. If a child has constructed for him/herself wrong meanings and ideas and these are not corrected by the teacher, any new information which is linked thereto is also likely to be wrong or to be wrongly applied (Gega, 1994:42).

Like self-discovery learning, other romantic ideas such as linking learning content to the students’ interests and life-world and making learning an “effortless”, enjoyable process have occasional educational value, but they should not be accepted uncritically or carried too far. It is true that children tend to be innately curious and that learning is enjoyable and easier if their interests are addressed, but children are unable to judge the intellectual value of their interests. With regard to making learning effortless Hirsch (1996:87), after researching neurobiological publications, points out that: “One finding of neurobiology is that all learnings ... require repeated efforts (‘distributed practice’) ... to forge and fix new neural networks ... there is no way around repeated and sometimes hard work”. For example, it is not easy, or fun, to master spelling, but “its mastery is a precondition to written communication” (Honig, 1987:12). In today’s highly competitive job market, children must learn that mastery, expertise and success demand hard and directed work.

To constantly create lifelike, interesting, “meaningful” contexts is not the principle followed in teaching children a sport, or ballet, or to play a musical instrument, and it should not be the principle that *always* guides academic learning. It is a principle that, when absolutised, has bred contempt for specialised drill and practice, and has also bred condemnation of memorisation and denigration of the importance of storing in memory large amounts of information. Information accessing skills are important, but they “are not inherently difficult skills that take a long time to acquire. They cannot replace students’ ready knowledge of varied subject matter and word meanings” (Hirsch, 1996:242).

Memorisation — so the charge runs — stifles all originality. Instead of memorising facts, it is said, true, meaningful learning depends on understanding — which is, of course, true. True, meaningful learning does depend on understanding. *Understanding is, however, only the beginning of learning.* Understanding something does not mean that one has learnt it, i.e. that one knows it and has confidence in applying it. When one understands something one has taken the first step in learning; the next step is to commit it to memory, i.e. to memorise it. Then, *and only then, when something has been committed to memory has one learnt it.*

Ready knowledge, that is, memorised knowledge, is important — in later schooling and in many professions. Most, if not all, professions require their practitioners to have a mass of detailed information stored in their memory. Medical doctors, engineers and many others cannot constantly consult books or the internet on the job. People who have had an education opposed to memorisation have great trouble in committing to memory the knowledge that is basic to and essential for their chosen professions (Weeks, 1988:65).

Furthermore, higher order thinking skills, such as independent, critical thinking and problem-solving, are *always* conjoined to relevant, domain-specific information, and therefore such skills cannot be gained and subsequently exercised without having committed the associated information to memory (Hirsch, 1996:254; 264). The denigration of memorisation is in fact a denigration of knowledge, and ultimately a defeat of the educational ideal of stimulating problem-solving and independent, critical thinking. As Hirsch (1996:247) points out:

“Independent-mindedness is always predicated on relevant knowledge: one cannot think critically unless one has a lot of knowledge of the issue at hand. Critical thinking is not merely giving one’s opinion.”

In fact, common sense tells one that the person who can think critically and who can solve problems is, *without exception*, one who has sufficient knowledge of the relevant issue or problem.

The validity of the hypothesis of the superiority of learner-centred teaching was put to scientific test in the largest educational experiment ever undertaken, namely, America’s Project Follow-Through that began in 1967 and received its last state grant in 1995. It affected more than 70,000 children a year in more than 180 schools. Its goal was to identify the best teaching methods, specifically to teach economically disadvantaged students and thus uplift such communities. Nine teaching methods were tested, and each of these fell into one of three types — wholly learner-centred; highly structured, teacher-directed; and combinations. Students’ achievement in three areas, namely, academic performance, cognitive skills and self-esteem, at each Follow-Through school was compared with the other Follow-Through schools and also with non-Follow-Through schools. Two agencies independent from American education authorities and institutions analysed the data. The findings were unequivocal: *in all three areas, students taught by highly structured, teacher-directed methods came out on top and the wholly learner-centred at the bottom* (Grossen, 1998:26; Moeller, 1994:36-37).

The superiority of well structured, teacher-directed and content-centred lessons was also demonstrated in the 1980s by the distinguished sociologist, Coleman, who conducted carefully controlled, large-sample research into the high academic achievement of advantaged and disadvantaged students at private Roman Catholic schools in America. Hirsch (2001:1) sums up Coleman's findings as follows:

Catholic schools achieve more educational equity than public schools because they follow a rich and demanding curriculum; provide a structured, orderly environment; offer lots of explicit instruction, including drill and practice; and expect every child to reach minimal goals in each subject by the end of the year. All of this stands in stark contrast to the progressive ideals of unstructured, implicit teaching and "individually tailored" instruction that now predominate in public schools. As a result, disadvantaged children prosper academically and the schools narrow the gaps among races and social classes. When criticized for condemning public schools, Coleman pointed out that the very same democratic results were being achieved by the few public schools that were also defying progressivist doctrine.

Conclusion

The popularity of progressive, learner-centredness can be ascribed to the appeal that it makes to educators' love for children. Carnine (2000), the then Director of the National Center to Improve the Tools of Educators, researched the American education establishment's resistance to rigorous empirical evidence such as that of Project Follow-Through. He (2000:8) found that the natural-learning idea "is enormously appealing" and "has closed the minds of many experts to actual research findings about effective approaches to educating children".

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